



## Notes on the Extended Distribution of Three Indian Endemics in Tamil Nadu

### Abstract

*Diospyros angustifolia* (Miq.) Kosterm., *Gomphostemma keralensis* K. Vivekananthan, R. Gopalan & R. Ansari and *Hedyotis bourdillonii* (Gamble) R.S. Rao & Hemadri are Indian endemics not reported so far from Tamil Nadu. Explorations in Theni district helped to locate these species from Pachakumatchi hills. Nomenclature and description of these endemics are provided.

**Keywords:** *Diospyros angustifolia* (Miq.) Kosterm., *Gomphostemma keralensis* K. Vivekananthan et al. and *Hedyotis bourdillonii* (Gamble) R.S. Rao & Hemadri, occurrence, Tamil Nadu

### Introduction

Extensive field surveys conducted in Pachakumatchi Hills (High Wavy Mountains) in Theni district, Tamil Nadu under the Task Force Programme of the Botanical Survey of India enabled to locate *Diospyros angustifolia* (Miq.) Kosterm. (Ebenaceae), *Gomphostemma keralensis* K. Vivekananthan, R. Gopalan & R. Ansari (Lamiaceae) and *Hedyotis bourdillonii* (Gamble) R.S. Rao & Hemadri (Rubiaceae) as new additions to the flora of Tamil Nadu (Gamble, 1921; Matthew, 1983; Henry *et al.* 1987). They were the Indian endemics reportedly occurring outside the state boundary. (Saldanha & Ramesh, 1984; Mohanan *et al.* 1984). Brief descriptions of these species and notes on their distribution are given below.

*Diospyros angustifolia* (Miq.) Kosterm. in Ceylon J. Sci. 12: 106. 1977; Saldanha & Ramesh in Saldanha, Fl. Karnataka 1: 335. 1984. *Maba angustifolia* Miq., Anal. Bot. India 3: 13. 1852; Almeida, Fl. Maharashtra 3A: 178. 2001. *M. nigrescens* Dalzell in Dalzell & A. Gibson, Bombay Fl.: 142. 1861; Cooke, Fl. Bombay: 97. 1904; Gamble, Fl. Madras: 540. 1921. *Diospyros nigrescens* (Dalzell) Saldanha in Saldanha & Nicols., Fl. Hassan: 197. 1976; Kulkarni, Fl. Sindhudurg 240. 1988.

**Trees**, 4 to 8 m tall. Young branchlets densely brown-strigose. **Leaves** ovate-lanceolate to elliptic-lanceolate, 2-7 x 0.8-2.5 cm, coriaceous, narrowly acute at apex, subobtuse to cuneate at base, wavy, thickened and recurved along margin, ciliate when young. **Flowers** 3-merous, axillary. **Male flowers** 1-3 per cluster; calyx-teeth ovate, acute, hirsute, brown-strigose; corolla white, c. 5 mm long, lobes 3, obovate, obtuse, densely hairy without, stamens 9. **Female flowers** solitary, c. 5 mm across; calyx-lobes 3, ovate,

c. 5 x 5 mm, acute, sparsely strigose; corolla white, c. 5 mm long, lobes 3, oblong, obtuse, hairy without; ovary 3-celled; stigma 3-fid. **Berries** obliquely ellipsoid, c. 1.5 x 1.2 cm, rusty-brown when young with persistent style and calyx cup.

**Flowering & Fruiting:** May-August.

**Habitat:** Along streamlets in moist deciduous to evergreen forests, frequent.

**Specimens Examined:** **Tamil Nadu**, Theni District, Vellimalai Estate, along Sabarigiri river, *Lakshmanan* 95240 (MH). **Karnataka**, Hassan District, Shiradi Ghat, on the banks of Kempuhole, *Saldanha* 16560 (JCB).

**Note:** Canara in Karnataka is the type locality of this species (*Type: Metzius* 389, K). It is so far recorded only from Maharashtra and Karnataka. Kostermans (1981) stated that this species was close to the Sri Lankan endemic, *D. rheophytica* but differs in having dense strigose branchlets.

*Gomphostemma keralensis* K. Vivekananthan, R. Gopalan & R. Ansari in Kew Bull. 38: 189. 1983; Mohanan, Pandurangan & Raju in J. Econ. Tax. Bot. 5 (2): 455-459. 1984.

**Subshrubs**, to 1 m tall; stem 4-angled, stellate tomentose. **Leaves** elliptic-oblong, 15-25 x 6-10 cm, chartaceous, glabrescent above, acuminate at both ends, dentate along margin; petioles 2-5.5 cm long. **Verticils** c. 2 cm across; bracts c. 1.5 x 0.5 cm. **Flowers** yellow, c. 1 cm long; calyx c. 1.2 cm long; corolla puberulous without. **Nutlets** oblong-ellipsoid, c. 6 x 3 mm, pubescent.

**Flowering & Fruiting:** June-September

**Habitat:** Grasslands adjacent to evergreen forests, rare.

**Specimens Examined:** **Tamil Nadu**, Theni district, Vellimalai, *Lakshmanan* 87928 (MH). **Kerala**, Idukki district, Kulamavu, *Mohanan* 74544 (MH).

**Note:** Mangaladevi, Periyar Wildlife Sanctuary in Idukki (Kerala) is the type locality of this species (*Vivekananthan* 48658, holotype, CAL; isotype MH). Later, it was located from Kulamavu of the same district by Mohanan *et al.* (1984).

*Hedyotis bourdillonii* (Gamble) R.S. Rao & Hemadri in Indian For. 99: 378. 1973; N.C. Nair, V. J. Nair & Ansari in Bull. Bot. Surv. India 22: 205. 1980. *Oldenlandia bourdillonii* Gamble in Bull. Misc. Inform. 1919. 404. 1919 & Fl. Madras 422. 1921. *Hedyotis silent-valleyensis* Vajravelu, N.C. Rathakrishnan & P. Bhargavan, J. Bombay Nat. Hist. Soc. 80 (2): 402. 1983; Deb & Dutta in J. Bombay Nat. Hist. Soc. 83 (1): 466. 1986.

**Shrubs**, 1-1.5 m tall, branchlets dichotomous, hirsute. **Leaves** elliptic-lanceolate, 3-6 x 1.5-2.5 cm, membranous, hirsute, obtuse at base, acuminate at apex; lateral nerves 3-4 pairs, oblique; stipules triangular, 1.5-2.5 x 2.5-4.5 mm,



pubescent; teeth 9-11, pectinate, villous. Inflorescence a terminal dichasial cyme. Flowers subsessile, c. 7 mm long; bracts leafy, 6-8 mm long, villous; calyx 4 lobed, triangular, acute, pubescent, white to pale pink; corolla tubular, 7-8 mm long, pubescent without, 4 lobed, oblong, incurved at apex, serrulate along margin, pale blue to pale purple. Capsules oblong, c. 6 x 3 mm, densely villous at base; seeds 8-10, narrowly 3 - winged, reticulate, pale brown.

*Flowering & Fruiting:* December-February and June-August.

*Habitat:* Grasslands at high altitudes, locally common.

*Specimens Examined:* **Tamil Nadu**, Theni district, Pachakumatchi hills, Maharajamettu peak and Nursery Valley, Lakshmanan 87536, 95253 (MH). **Kerala**, Palaghat district, Silent Valley, Ansari 51466 (MH).

*Note:* Gamble (1919) described this species based on Bourdillon's collection in 1887 from the Travancore hills in Kerala after T. F. Bourdillon 111(K) and T.F. Bourdillon s.n. (MH Accn. No. 24321). Nair *et al.* (1980) relocated it from Silent Valley after 120 years of the type collection.

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K. Ravikumar, V. Lakshmanan<sup>1</sup> and R. Vijaya Sankar

Foundation for Revitalisation of Local Health Traditions, # 74/2, Jarakabande Kaval, Attur P.O., Via Yelahanka, Bangalore 560 064, Karnataka, India. e-mail: k.ravikumar@frlht.org.in

<sup>1</sup>Botanical Survey of India, Southern Circle, TNAU Campus, Coimbatore 641 003, Tamil Nadu, India.